# Use Of Left Ventricular Assist Device As Bridge In Post MI VSR

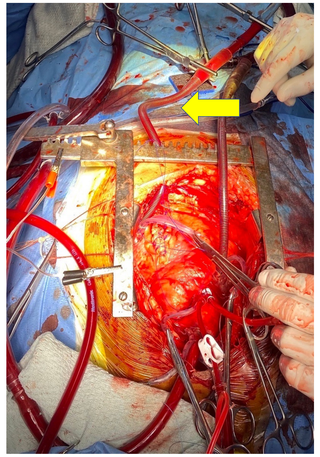
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## INTRODUCTION

Ventricular Septal Rupture (VSR) is a rare entity presenting in 1 to 2% cases following acute myocardial infarction (MI). Presentation is usually in the form of increase in breathlessness & new onset pan-systolic murmur along with multi organ dysfunction. Surgical closure is a recognised means for definite treatment [1] along with aggressive pre and post-operative hemodynamic stabilisation. Recently catheter-based intervention has also been introduced [2]. Despite all measures , survival is poor with a mortality of up to 50% [3].

## PATIENTS AND METHODS

Two patients of post MI VSR underwent surgical repair of their post MI VSR. The patients were unable to come off bypass despite high ionotrope and IABP support. Left ventricular assist device (LVAD) – (CentriMag® device - Abbot$^{Tm}$) was used in these two patients to save life. One patient expired after 6 days of circulatory support . The second patient recovered after a circulatory support of 3 days .



Photograph showing transition from the cardiopulmonary bypass circuit to the Centrimag®.

Native venous cannulae used as drainage cannula after tunnelling through skin (arrowhead) .

Native aortic cannula is return cannula

## RESULTS

The first patient did well in the post-operative period following patch repair of VSR. The VSR was around 0.8 cm diameter. LVAD support was required for this patient because he was unable to come off bypass despite high ionotrope and intra aortic balloon pump (IABP) support. He had an uneventful recovery with LVAD support weaned after 3 days.

The second patient was on ventilatory support with high ionotropic support and renal failure preoperatively.

His VSR was around 1.5 cm in diameter with friable and necrotic tissue. Patch repair of VSR was done. LVAD support was required for this patient too because he was unable to come off bypass despite high ionotrope and IABP supports.

Postoperatively continuous renal replacement therapy (CRRT) was also required for this patient.

The patient later had recurrence of VSR on day 6 (confirmed by transesophageal echocardiography) and he developed circulatory failure despite LVAD support and succumbed.

## CONCLUSION

Surgical correction for post MI VSR is associated with high mortality and mechanical circulatory support should be used early in the course to allow better outcomes.

Data regarding post-operative use of LVAD for myocardial recovery is insufficient and requires further investigation.

## REFERENCES

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